

What is claimed is:

1. An optical coupling system comprising:
 - a post having first and second ends;
 - a microlens situated on the first end of said post;
 - and
 - a window having a first side proximate to said microlens and having a second side.
2. The system of claim 1, wherein:
 - the second end of said post is an input for light; and
 - the second side of said window is an exit for the light.
3. The system of claim 2, wherein:
 - the exit for the light may be proximate to an optical fiber; and
 - the input may be proximate to a light source.
4. The system of claim 3, wherein:
 - said post comprises an epoxy material;
 - said microlens comprises an epoxy material; and

said window comprises glass.

5. The system of claim 3, wherein the optical fiber may be single mode fiber.

6. The system of claim 5, wherein the optical fiber is in contact with the second side of said window.

7. The system of claim 5, wherein the optical fiber is at a distance from the second side of said window.

8. The system of claim 5, wherein the light source may be a vertical cavity surface emitting laser (VCSEL).

9. The system of claim 5, wherein said post is situated proximate to the light source and on a wafer having the light source.

10. The system of claim 5, wherein said microlens is a spherical lens.

11. The system of claim 10, wherein said microlens is an ink-jet formed lens.
12. The system of claim 5, wherein said microlens is an aspherical lens.
13. An optical coupling system comprising:
 - an array of posts;
 - a microlens situated on a first end of each post of said array of posts; and
 - a window having a first surface proximate to each microlens of said array of posts.
14. The system of claim 13, wherein:
 - each post has a second end proximate to a radiation source; and
 - a second surface of said window is proximate to an optical fiber for receipt of radiation from each microlens of said array of posts.
15. The system of claim 13, wherein:

each post has a second end proximate to a detector;

and

a second surface of said window is proximate to an
optical fiber corresponding to each microlens.

16. The system of claim 14, wherein:

each post comprises an epoxy material; and
each microlens comprises an epoxy material.

17. The system of claim 16, wherein said window comprises
a glass material.

18. The system of claim 14, wherein the optical fiber is
single mode fiber.

19. The system of claim 18, wherein the radiation source
is a VCSEL.

20. The system of claim 18, wherein the optical fiber is
spaced at a distance from the second surface of said
window.

21. The system of claim 18, wherein the optical fiber is in contact with the second surface of said window.

22. The system of claim 18, wherein each microlens is a spherical lens.

23. The system of claim 18, wherein each microlens is an aspherical lens.

24. The system of claim 23, wherein each microlens is an ink-jet formed lens.

25. An optical coupling system comprising:
a substrate having a plurality of optoelectronic
elements formed on said substrate;
a plurality of posts formed over the plurality of
posts on said substrate;
a plurality of lenses formed on said posts;
a window situated proximate to said plurality of
lenses; and
a plurality of optical fibers proximate to said
window.

26. The system of claim 25, wherein the optoelectronic elements are light sources.
27. An optical coupling system comprising:
an optoelectronic element;
a place for an end of an optical medium; and
a lens situated between said optoelectronic element
and place for an end of optical medium.
28. The system of claim 27, wherein said lens is an aspherical lens.
29. The system of claim 28, wherein said medium is an optical fiber.
30. The system of claim 29, wherein said place for an end of an optical medium is a fiber stop.
31. The system of claim 30, wherein said aspherical lens comprises a non-glass material.

32. The system of claim 31, wherein said optoelectronic element is a detector.

33. The system of claim 31, wherein said optoelectronic element is a light source.

34. The system of claim 33, wherein said light source is a vertical cavity surface emitting laser.

35. The system of claim 34, wherein the said aspheric lens comprises a plastic material.

36. The system of claim 35 wherein said optical fiber is single mode optical fiber.

37. An optical coupling system comprising:
an optoelectronic element situated about an optical
axis;
a aspherical lens situated about the optical axis; and
a place for an optical fiber situated about the
optical axis.

38. The system of claim 37, wherein said aspherical lens comprises a non-glass material.

39. The system of claim 38, wherein said optoelectronic element is a detector.

40. The system of claim 38, wherein said optoelectronic element is a light source.

41. The system of claim 40, wherein said optoelectronic element is a vertical cavity surface emitting laser.

42. The system of claim 41, wherein said optical fiber is a single mode fiber.

43. A method for making a lens on a post, comprising:
placing a first layer on a wafer;
forming a first pattern on the first layer;
placing second layer on the first layer;
forming a second pattern on the second layer; and
developing the patterns; and

wherein the developing the patterns results in a
plurality of posts having wells.

44. The method of claim 43, further comprising placing a
material in the wells to form lenses.

45. The method of claim 44, wherein the material is a
plastic.